CLAIMS

1) A method of producing fuel injectors for internal combustion engines, each injector (1) comprising an injector body (2) having a seat (5); a valve body (17) housed inside said seat (5) so as to form an annular chamber (29), for receiving high-pressure fuel, and a gap (M) communicating with said annular chamber (29); and a seal (32) for sealing said gap (M); the method being characterized by sizing said seal (32) as a function of the deformation to which said seal (32) is subjected during use of said injector (1), so as to achieve a predetermined working life (LF) of said injector (1).

2) A method as claimed in Claim 1, characterized by sizing said seal (32) as a function of the permanent deformation to which said seal (32) is subjected during use of said injector (1).

3) A method as claimed in Claim 1, characterized by sizing said seal (32) as a function of the size of said gap (M); the size of the seal (32) being inversely proportional to the size of said gap (M).

4) A method as claimed in Claim 1, characterized in that said seal (32) is annular and has a height (h) and a width (d); said width being equal to the width of said annular chamber (29).

5) A method as claimed in Claim 4, characterized by determining the height (h) of said seal as a function of a predetermined life (LF) of said injector (1).

6) A method as claimed in Claim 5, characterized by determining the height (h) of said seal (32) as a function of the maximum operating pressure (P) and maximum operating temperature (T) of said injector (1).

7) A method as claimed in Claim 4, characterized by determining the height (h) of the seal (32) according to the equation:

$$h = \sqrt[3]{\frac{LF \cdot P \cdot T \cdot M \cdot d}{K}}.$$

8) A method as claimed in Claim 1, characterized in that said seal (32) is made of Teflon enriched with bronze particles.

9) A method as claimed in Claim 1, characterized in that said seal is made of TURCON ®.

10) A method as claimed in Claim 1, characterized by predetermining the working life (LF) of the injector (1) equal to the working life of the internal combustion engine (E) on which said injector (1) is installed.

11) A fuel injector for an internal combustion engine (E), the injector comprising an injector body (2) having a seat (5); a valve body (17) housed inside said seat (5) so as to form an annular chamber (29), for receiving high-pressure fuel, and a gap (M) communicating with said annular chamber (29); and a seal (32) for sealing said gap (M); the injector being characterized in that said seal (32) is sized as a function of the deformation to which said seal (32) is subjected during use of said injector (1), so as to obtain a predetermined

working life (LF) of said injector (1).

12) An injector as claimed in Claim 11, characterized in that said seal (32) is sized as a function of the size of said gap (M); the size of the seal (32) being inversely proportional to the size of said gap (M).

13) An injector as claimed in Claim 11, characterized in that said seal (32) is annular and has a height (h) and a width (d) measured radially; said width (d) being equal to the width of said annular chamber (29).

14) An injector as claimed in Claim 13, characterized by determining the height (h) of said seal (32) as a function of a predetermined life (LF) of said injector (1).

15) An injector as claimed in Claim 14, characterized by determining the height (h) of said seal (32) as a function of the maximum operating pressure (P) and maximum operating temperature (T) of said injector (1).

16) An injector as claimed in Claim 13, characterized by determining the height (h) of the seal (32) according to the equation:

$$h = \sqrt[3]{\frac{LF \cdot P \cdot T \cdot M \cdot d}{K}}.$$

17) An injector as claimed in Claim 11, characterized in that said seal (32) is made of Teflon enriched with bronze particles.

18) An injector as claimed in Claim 11, characterized in that said seal is made of TURCON ®.